

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11) EP 1 006 653 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
30.06.2004 Bulletin 2004/27

(51) Int Cl. 7: H03K 5/08

(43) Date of publication A2:  
07.06.2000 Bulletin 2000/23

(21) Application number: 99114249.8

(22) Date of filing: 28.07.1999

(84) Designated Contracting States:  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE  
Designated Extension States:  
AL LT LV MK RO SI

(30) Priority: 02.12.1998 JP 34276298  
17.02.1999 JP 3927199

(71) Applicant: FUJITSU LIMITED  
Kawasaki-shi, Kanagawa 211-8588 (JP)

(72) Inventors:  
• Ide, Satoshi  
Nakahara-ku, Kawasaki-shi, Kanagawa 211 (JP)  
• Shibata, Kohei  
Nakahara-ku, Kawasaki-shi, Kanagawa 211 (JP)

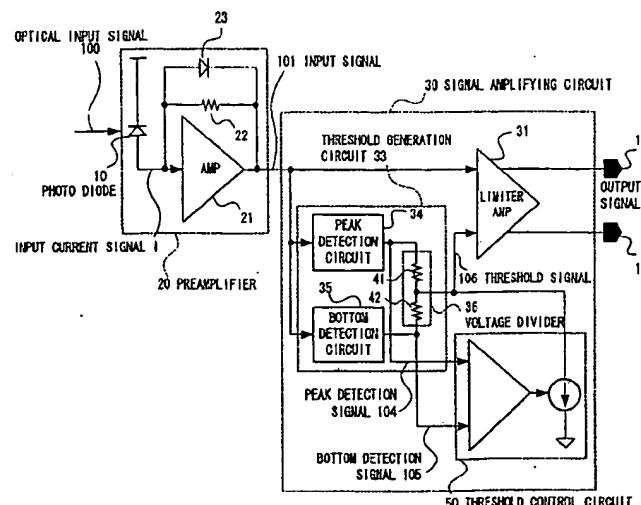
(74) Representative: HOFFMANN - EITLE  
Patent- und Rechtsanwälte  
Arabellastrasse 4  
81925 München (DE)

### (54) Signal amplifying circuit

(57) In a signal amplifying circuit connected to a transfer circuit having a known non-linear transfer characteristic and a transient characteristic, a threshold generation circuit generates a threshold signal based on an input signal, a threshold control circuit controls the threshold signal so as to correct the non-linear transfer characteristic of the transfer circuit provided at a former stage based on the input signal. Also, basic amplifying circuit blocks can be connected in a multistage form, each of which is composed of a threshold generation

circuit and a differential amplifying circuit, and control the threshold signal of a latter stage block so as to correct the non-linear transfer characteristic of a basic amplifying circuit block at a former stage based on the input signal. In addition, basic amplifying circuit blocks can be connected in a multistage form, each of which includes a peak master-slave threshold generation circuit or a bottom master-slave threshold generation circuit, and control the threshold signal of the differential amplifying circuit of each circuit block.

FIG. 2





DOCUMENTS CONSIDERED TO BE RELEVANT									
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)						
X	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 02, 31 March 1995 (1995-03-31) & JP 6 310967 A (NIPPON TELEGR & TELEPH CORP <NTT>), 4 November 1994 (1994-11-04) * abstract * & JP 06 310967 A (NIPPON TELEGR & TELEPH CORP <NTT>) 4 November 1994 (1994-11-04) ----	1-6, 8-11, 14-18	H03K5/08						
X	PATENT ABSTRACTS OF JAPAN vol. 0072, no. 22 (E-201), 4 October 1983 (1983-10-04) & JP 58 114637 A (TOKYO SHIBAURA DENKI KK), 8 July 1983 (1983-07-08) * abstract * & JP 58 114637 A (TOKYO SHIBAURA DENKI KK) 8 July 1983 (1983-07-08) ----	1-6, 8-11, 14-18							
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 14, 31 December 1998 (1998-12-31) & JP 10 261940 A (FUJITSU LTD), 29 September 1998 (1998-09-29) * abstract * & JP 10 261940 A (FUJITSU LTD) 29 September 1998 (1998-09-29) ----	1-6, 8-11, 14-18	TECHNICAL FIELDS SEARCHED (Int.Cl.7) H03K						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>Munich</td> <td>12 May 2004</td> <td>Brown, J</td> </tr> </table> <p>CATEGORY OF CITED DOCUMENTS</p> <p>K : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>				Place of search	Date of completion of the search	Examiner	Munich	12 May 2004	Brown, J
Place of search	Date of completion of the search	Examiner							
Munich	12 May 2004	Brown, J							

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 99 11 4249

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-05-2004

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
JP 6310967	A	04-11-1994	JP	3284506 B2		20-05-2002
			DE	69420447 D1		14-10-1999
			DE	69420447 T2		13-04-2000
			EP	0621686 A2		26-10-1994
			EP	0891042 A2		13-01-1999
			US	5475342 A		12-12-1995
<hr/>						
JP 58114637	A	08-07-1983		NONE		
<hr/>						
JP 10261940	A	29-09-1998	US	5923219 A		13-07-1999
<hr/>						